UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ART UNIT	PAPER NUMBER
3623	

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/899,603	ELMER ET AL.
	Examiner	Art Unit	
	Jonathan G. Sterrett	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2005*.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date *10-27-05*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Summary

1.   This **Final Office Action** is responsive to applicant's amendment filed October 27, 2005. Currently **Claims 1-19** are pending.

The examiner notes that the IDS is included as an attachment to this office action. The examiner assumes that the date for the document in the IDS is prior to the application date. If additional materials in the series are available to the applicant (prior to the application date), the examiner respectfully requests these materials be submitted in a future IDS.

2.   The examiner notes that in the upper left hand corner of the claim amendments and in the remarks (arguments) submissions, the application number is incorrectly listed as "11/011,421". The examiner respectfully suggests this be corrected in future correspondance to ensure that there are neither delays nor errors in processing and entering the amendments/remarks.

Response to Arguments

3.   The applicant's arguments have been fully considered, but they are not persuasive.

4.   The applicant argues that the use of the claim limitation "substantially unlimited" is enabling as described in the specification and is not indefinite in its use in the claims.

The examiner respectfully disagrees.

Although the examiner understands the applicant's arguments that the specification does describe a large number of attributes to be used by the invention, the examiner still maintains the 112 rejections. The applicant cites an automobile as an example of a product that has a large number of attributes. While the number of these attributes can be large, as the applicant points out, in the choice of tire materials and attributes, the number of these attributes is still not unlimited. Even if product attributes were developed for every minor subassembly down to every last nut and bolt in the automobile, that would be a very large list of product attributes, however it is not "substantially unlimited". Webster's Collegiate Dictionary (10th Edition) defines **"unlimited"** as **"boundless, infinite"**. The examiner suggests replacing the term **"unlimited"** with **"comprehensive"** to overcome the rejections. Comprehensive is defined as "covering completely or broadly" as defined by Webster's. The examiner considers **comprehensive** to also encompass what is described in the specification as the ability to completely cover the many attributes used to define a product.

5.   The applicant argues that the use of the limitation in the preamble of "online adaptive discrete choice modeling" is not anticipated by the cited references.

The examiner respectfully disagrees.

In response to applicant's arguments, the recitation **"online adaptive discrete choice modeling"** has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where

the body of the claim does not depend on the preamble for completeness but, instead,

the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535

F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88

USPQ 478, 481 (CCPA 1951).

6.   The applicant argues that the reference Orme B is not a valid 103 reference

because the alleged date is 2003 and thus after the applicant's filing date.

        The examiner respectfully disagrees.

        The Orme B reference notes on the title page "Article originally published in

Sawtooth Solutions, 1996".

Claim Objections

7.   Claim 18 is objected to because of the following informalities: Claim 18 contains

what appears to be a note in parentheses to "John". For the purposes of examination,

the examiner is ignoring this note. Also in the same claim, the phrase "choices which

excludes" appears to be repeated. The word "excludes" appears to be incorrectly

spelled and should be spelled "exclude". Appropriate correction is required.

Claim Rejections - 35 USC § 112

8.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

9.   **Claims 1-13** are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the enablement requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to enable one skilled in the art to

which it pertains, or with which it is most nearly connected, to make and/or use the

invention.

Regarding **Claims 1-13**, the claims cite an "unlimited" number of product

attributes. The computer memory referenced in the specification has a limited amount

of storage space for storing the above referenced attributes. The invention is designed

to obtain feedback from respondents on product attributes. While a number of up to

300 is listed in the specification, the specification also states that an upper limit is not

intended. It is not clear from the specification how survey participants would complete a

survey when there is an unlimited number of product attributes in the survey.

Because of the inability of limited storage memory to store an "unlimited" number

of product attributes and the inability of respondents with obtaining feedback from an

"unlimited" number of product attributes, the invention is not enabled, because one of

ordinary skill in the art would not know how to make or use the invention.

10.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

11.   **Claims 1-13** are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Regarding **Claims 1-13**, the limitation "**unlimited**" is indefinite in describing a

number of attributes and/or levels of those attributes. Because "**unlimited**" includes

both smaller numbers associated in the art with market surveys, e.g. 100 or 200 product

attributes and larger numbers, e.g. a few thousand product attributes in the case of an

extensive market survey or study; and also includes a few million or a billion or even a

trillion product attributes (or more as would be covered by "unlimited"!), the claim is

indefinite.

Regarding **Claim 1**, part "c)" is indefinite because it is not clear how the

respondents are responding to the survey in such a way as to accomplish subparts "i)"

and "ii)". Is the elimination of attributes in part i accomplished by the respondent? Is

the hierarchy from the attributes produced directly by the respondent in accomplishing

the survey, i.e., are they constructing the hierarchy as a part of responding to the

survey? Or does the applicant intend for the computerized method of the survey to be

responsible for parts "i)" and "ii)" in adaptive response to the respondent's answers?

Part "c)" of the claim is followed by two subparts in such a way that it is not clear how

the subparts are accomplished by the respondent completing the survey, therefore the

claim is indefinite.

Claim Rejections - 35 USC § 102

12.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13.   **Claims 1 and 14-19** are rejected under 35 U.S.C. 102(b) as being anticipated by
Orme (hereinafter Orme A).

Orme A: Orme, Bryan, K; King, W. Christopher; "Conducting Full-Profile Conjoint
Analysis over the Internet", 1998, Sawtooth Software Research Paper Series, pp.1-13.

Regarding **Claim 1,** Orme A discloses:

**a) a user, inputting said substantially unlimited set of product attributes
and/or product attribute levels to one of an application service provider (ASP), a
web server providing service, or an internet server, via a data communication
means;**

Page 3 paragraph 3 line 1-4, Use of Internet (i.e. use of internet server) to
administer surveys – see also page 4 paragraph 5 line 1-2. Since the survey is
conducted over the internet, the respondent has a data communication means (e.g. the
computer, internet appliance or PDA the respondent is using to access the internet).

Page 5 paragraph 1 line 4-6, a number of attributes are used in an online survey.

Page 7 paragraph 4, Table shows attribute levels of "Annual Fee", "Interest Rate"
and "Credit Limit". It is inherent in Conjoint Analysis that attributes arranged in a
hierarchy are used to determine which attributes (and combination of attributes) are
most attractive to targeted customers.

**b) said ASP, a web server providing service, or an internet server, defining
a questionnaire for use/input by a plurality of individual respondents;**

Page 7 paragraph 3 line 1-2 – internet survey (i.e. using an internet server) is

defined for use by a plurality of respondents –see page 7 paragraph 6 line 1-2, in this

case 280 respondents completed the survey.

c) said plurality of individual respondents, each responding to said

questionnaire:

i) eliminating those product attributes that would not be considered

in said individual respondent's buying decision;

Page 6 Figure 2 – "single concept" eliminates attributes that would not be

considered in selecting a credit card.

ii) from the product attributes that would be considered, producing a

hierarchy of said product variables;

Page 7 paragraph 4, survey responses produce a hierarchy of product

variables – in this example the hierarchy is "Annual Fee", "Interest Rate" and "Credit

Limit" –see also page 11 for the tables outlining the hierarchy of "Brand", "Annual Fee",

"Interest Rate" and "Credit Limit". Different conjoint analysis methods are disclosed by

Orme: "Single Concept" where single concepts are ranked and pairwise "Full Profile"

(FP), where different concepts are compared.

d) said ASP, said web server providing service, or said internet server,

upon receiving inputs from said plurality of individual respondents, providing

said user with an estimate of the purchase likelihood of any combination of the

substantially unlimited set of product attributes and/or product attribute levels to

a potential consumer group represented by said individual respondents.

Page 7 paragraph 1 line 1, online conjoint analysis (i.e. provided by an internet server) provides purchase likelihood ratings (i.e. estimates of purchase likelihood ratings). Conjoint analysis provides the person designing the study with the above likelihood of any combination of a set of product attributes (and associated hierarchy) to a potential consumer group (i.e. since conjoint analysis is a type of marketing study, it targets potential consumer groups represented by individual respondents).

Regarding **Claim 14**, Orme A discloses:

a. listing product attributes of a product or service by a user.

Page 3 paragraph 3 line 1-4, Use of Internet (i.e. use of internet server) to administer surveys – see also page 4 paragraph 5 line 1-2. Since the survey is conducted over the internet, the respondent has a data communication means (e.g. the computer, internet appliance or PDA the respondent is using to access the internet).

Page 5 paragraph 1 line 4-6, a number of attributes are used in an online survey.

Page 7 paragraph 4, Table shows attribute levels of "Annual Fee", "Interest Rate" and "Credit Limit". It is inherent in Conjoint Analysis that attributes arranged in a hierarchy are used to determine which attributes (and combination of attributes) are most attractive to targeted customers.

b. said user designing an online questionnaire with substantially all attributes of said product.

Page 7 paragraph 3 line 1-2 – internet survey (i.e. using an internet server) is

defined for use by a plurality of respondents –see page 7 paragraph 6 line 1-2, in this

case 280 respondents completed the survey.

c. limiting said attributes.

Page 1 paragraph 6 line 1-8, the adaptive analysis limits the attributes to be

shown to a respondent based on their previous answers.

d. communicating said limited attributes to said plurality of respondents

via an internet;

Page 1 paragraph 3 line 1-5, the internet is used to communicate questionnaires

to respondents –see also page 3 paragraph 3 "Online Surveys"

e. said plurality of respondents responding to said questionnaire; and

Page 1 paragraph 3 line 1-5, respondents use the internet to respond to the

questionnaire –see also page 3 paragraph 3 "Online Surveys"

f. analyzing data created by said plurality of respondents in e.

Page 5 paragraph 1 line 1, conjoint analysis provides for analyzing the data from

respondents.

Regarding **Claim 15**, Orme A discloses:

wherein said attributes further comprise attribute levels.

Page 7 paragraph 4, Table shows attribute levels of "Annual Fee", "Interest Rate"

and "Credit Limit". It is inherent in Conjoint Analysis that attributes arranged in a

hierarchy are used to determine which attributes (and combination of attributes) are

most attractive to targeted customers

Regarding **Claim 16**, Orme A discloses:

Designing a discrete choice modeling survey

Page 5 paragraph 1 line 1-5 & paragraph 2 line 1-3, conjoint analysis provides for

fixed designs that are discrete choice modeling – i.e that model discrete choices made

by consumers – see also page 8 paragraph 4 & 5.

Regarding **Claim 17**, Orme A discloses:

A purchasing likelihood.

Page 7 paragraph 1 line 1, purchase likelihood ratings are used as an output of

conjoint analysis.

Regarding **Claim 18**, Orme A discloses:

Wherein said limiting of said attributes comprises an analytical hierarchy,

asking the plurality of respondents a random subset of the attributes, or consulting a

database of answers from prior respondents for this questionnaire and asking said

plurality of respondents questions consisting of random choices from a subset of

choices which excludes choices previously shown to prior respondents.

Page 1 paragraph 6 line 1-8, the adaptive analysis limits the attributes to be shown to a respondent based on their previous answers. The limitation is based on an adaptive hierarchy, i.e. adaptive conjoint analysis.

Regarding **Claim 19**, Orme A discloses:

Wherein said produce or service attributes comprise facets, features and benefits of said product or service.

Page 7 paragraph 4, table of product attributes comprise facets (i.e. annual fee), features (i.e. interest rate) and benefits (i.e. credit limit) of credit card offerings.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. **Claims 2-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Orme (hereinafter Orme A)** in view of **Orme (hereinafter Orme B)**.

Orme A: Orme, Bryan, K; King, W. Christopher; "Conducting Full-Profile Conjoint Analysis over the Internet", 1998, Sawtooth Software Research Paper Series, pp.1-13.

Orme B: Orme, Bryan, K; "Which Conjoint Method Should I Use?", 1996, Sawtooth Software Research Paper Series, pp.1-6.

Regarding **Claim 2,** Orme A teaches the following limitations above in Claim 1:

a) said user designing an online questionnaire to test respondent's

interest/desire for product attributes;

      i) listing product attributes;

      ii) listing product attribute levels;

b) said respondent receiving said questionnaire over a network;

      i) said respondent eliminating attributes that do not factor into a

respondent's individual selection decision;

d) said respondent receiving said customized questionnaire over said

network, said respondent answers questions on said questionnaire by use

of an input device; said answers being transmitted via a network to said

user;

      e) said user receiving a plurality of completed customized questionnaires;

Orme A also teaches:

      iii) said user determining size of a population of respondents to be

surveyed;

Page 7 paragraph 6 line 1-2, the sample size was determined by the number of

users clicking a link on the sawtooth software website. This sample size ended up

being 280 respondents.

      iv) said user determining a duration of said respondent's interaction

with said survey;

Page 7 paragraph 6 line 1, the duration of a respondent's interaction with the survey is determined by how long the respondent took to complete the survey – the survey was completed by 280 respondents.

f) said system analyzing said completed questionnaires;

whereby said system enables said user to design one or more products based on the responses from a plurality of respondents, such that said product includes attributes that most match the answers indicating relative importance of said attributes to a group of respondents' likely buying behavior.

Page 10 paragraph 1 line 1-2, the conjoint analysis provides attributes with "importances" that describe how much impact the attribute has on the purchase decision. The credit card study would enable a user to design a credit card (i.e. product) that matches the relative importance of attributes to the group of respondents' likely buying behaviour.

Orme A does not teach:

c) said system responding to both a) and b) to deliver to said respondent a customized questionnaire;

Orme B teaches:

c) said system responding to both a) and b) to deliver to said respondent a customized questionnaire;

page 2 paragraph 2 line 1-2, Adaptive Conjoint Analysis that is computer-administered (i.e. over the interent) adapts itself to respondent's previous answers to deliver the respondent a customized questionnaire.

Orme A and B both teach the use of conjoint analysis in marketing studies, and therefore both Orme A and B are analogous art.

Orme B teaches that conjoint analysis provides reliable and useful results (page 1 paragraph 3 line 2) in obtaining respondent feedback for use in marketing.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Orme A, regarding conducting conjoint surveys and analysis over the internet, to include the step of using the adaptive conjoint analysis to customize internet surveys and using the information to design one or more products, because it would provide reliable and useful information to design a product based on consumer input.

Regarding **Claim 3,** Orme A teaches:

wherein said plurality of respondents is a statistically significant number.

Page 7 paragraph 6 line 1, 280 respondents is a statistically significant number.

Regarding **Claim 4,** Orme A teaches:

wherein the level of significance is greater than one standard deviation

from the mean.

Page 11 Table "Conjoint Utilities", Attributes marked with an asterisk are

statistically significant at the 99% level, which is greater than plus/minus one sigma.

Regarding **Claim 5,** Orme A teaches the following limitations in Claims 1 and 2

above:

a) said producer or designer submitting a plurality of product attributes,

into a data mechanism for a user to design a questionnaire;

b) said plurality of respondents retrieving said questionnaire;

c) said plurality of respondents, each deselecting attributes that do not

enter into an individual respondent's decision to purchase said product; and

Orme A also teaches:

d) ranking the attributes not deselected by said respondent, said

respondent communicating said ranking of said attributes to said producer.

Page 6 Figure 2, attributes not deselected are ranked from "Definitely Would Not"

to "Definitely Would".

Claims 6-12 recite similar limitations as those recited in **Claims 1-5** above, and

are therefore rejected under the same rationale.

Regarding **Claim 13,** Orme A teaches:

wherein each of said user and said at least one respondent have a display

means and an input means.

Page 3 paragraph 3 line 1-4, online surveys provide a display means and an

input means for the user to enter (i.e. administer see page 4 paragraph 5 line 1-2) the

survey and for the respondent to respond to the survey.

Conclusion

16.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

17.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jonathan G. Sterrett whose telephone number is 703-

305-0550. The examiner can normally be reached on 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tariq Hafiz can be reached on 703-305-9643. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

JGS 1-6-06

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